SPECIAL DATA COLLECTION SYSTEM EVENT REPORT NTS EVENT 'OBAR', 30 APRIL 1975

J. R. Woolson, et al

Teledyne Geotech

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Air Force Technical Applications Center

8 September 1975

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REVISED

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
NTS Event "OBAR", 30 April 1975

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September 1975

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Unclassified

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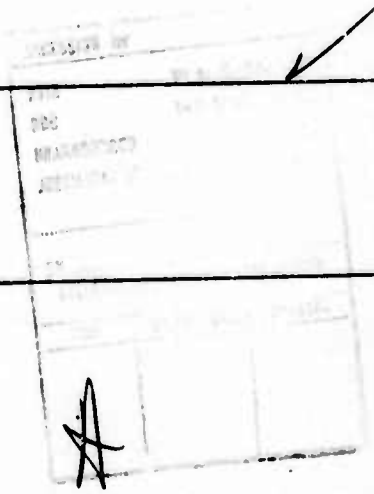

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Unclassified

1 < SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

SDCS Event Report No. 4

NTS Event "OBAR", 30 April 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	Origin Time	Latitude	Longitude	m_b	M_s
NORSAR	15:00:06	38 N	116 W	4.7	4.5
LASA	14:59:40	36.2N	118.0W	4.5	
Hagfors Array, Sweden	14:59:59	37 N	117 W	5.4	4.9

Using SDCS stations, LASA and NORSAR, the epicenter location becomes

SDCS & Arrays	15:00:01	37.3N	116.3W	4.7	4.0

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

Data from WH2YK is presented with a questionable time correction due to poor radio reception; in addition, the short-period vertical waveform does not appear "typical" for this hypocenter. NORSAR long-period radial and transverse components were deleted when an insufficient number of channels were available for proper beamforming.

Two hypocenter determinations have been included with the data summary, one with LASA included and one without LASA data. The reported source parameters were determined with LASA included.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES DEG MN SECS	ELEVATION METERS	INSTRUMENTATION SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14 00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35 41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32 58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41 19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09 43.0 N 067 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49 25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50 20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41 41.0 N 134 58 02.0 W	853	18300	SL210 V SL220 H

4A

Notes:

Details of the program used to obtain beamed vertical, radial and transverse data at LASA, ALPA and NORSAR are in the process of being reviewed. Vertical beams are probably valid, horizontal beams at the LASA and NORSAR are questionable. Horizontal beams at ALPA are probably invalid.

FN-WV, RK-ON, WH2YK and HN-ME horizontal instruments are oriented radial and transverse to the Nevada Test Site. CPSO is oriented N-S and E-W. LASA, NORSAR and ALPA beams have been rotated to radial and transverse with respect to the event location.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 30 APR 75
15:00:00.0 37.000N 116.000W 0KM.

STA.	ARRIVAL	RESIDUALS CALC	RESIDUALS REST	DIST. REST	AZ. REST
LAO	15 02 52.6	0.1	0.1	12.0	35.2
RK-ON	15 04 45.7	-0.2	-0.1	21.1	42.7
WH2YK*	15 05 20.1	-16.8 *	-17.0 *	26.3	339.1
CPO	15 05 21.7	-0.9	-0.9	24.7	84.5
PN-WV	15 06 02.3	1.5	1.5	28.9	76.1
HN-ME	15 07 07.7	-0.5	-0.5	36.6	60.4
NAO	15 11 32.4	0.0	0.0	73.2	24.1

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
14:59:59.2	37.221N	116.305W	-10. CALC	0.8	3	6
15:00:01.0	37.256N	116.256W	0. REST	0.8	3	6

CALC

```
    0 . 1
  0   .   0
0    0. 3   2
. . . . . . .
0    0. 0   0
  0   .   0
    0 . 0
```

REST

```
    0 . 1
  0   .   0
0    0. 3   2
. . . . . . .
0    0. 0   0
  0   .   0
    0 . 0
```

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.73
MAJOR 90.4KM. MINOR 55.1KM. AZ= 75 AREA= 15636 SQ.KM. REST

HYPOCENTER DETERMINATION

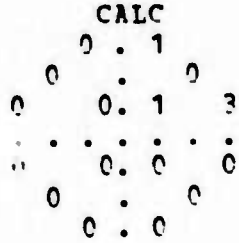
INPUT FOR EVENT 30 APR 75
15:00:00.0 37.000N 116.000W 0KM.

STA.	ARRIVAL	RESIDUALS CALC	RESIDUALS REST	DIST. REST	AZ. REST
LAO *	15 02 52.6	2.4 *	0.3 *	12.0	35.2
RK-ON	15 04 45.7	0.1	-0.0	21.0	42.7
WH2YK*	15 05 20.1	-13.9 *	-17.1 *	26.3	339.1
CPO	15 05 21.7	-0.7	-0.9	24.7	84.6
FN-WV	15 06 02.3	1.4	1.5	28.9	76.1
HN-ME	15 07 07.7	-0.8	-0.5	36.6	60.4
NAO	15 11 32.4	0.0	-0.0	73.1	24.1

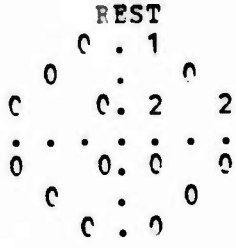
67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
14:59:39.0	37.028N	116.729W	-126. CALC	0.9	7	5
15:00:01.2	37.280N	116.238W	0. REST	0.9	2	5

CALC



REST



CHI2 COVERAGE ELLIPSE: 95 PER CENT CONF..LEVEL, SDV= 1.34

MAJOR 96.1KM. MINOR 54.1KM. AZ= 46 AREA= 16331 SQ.KM. REST

DATA SUMMARY

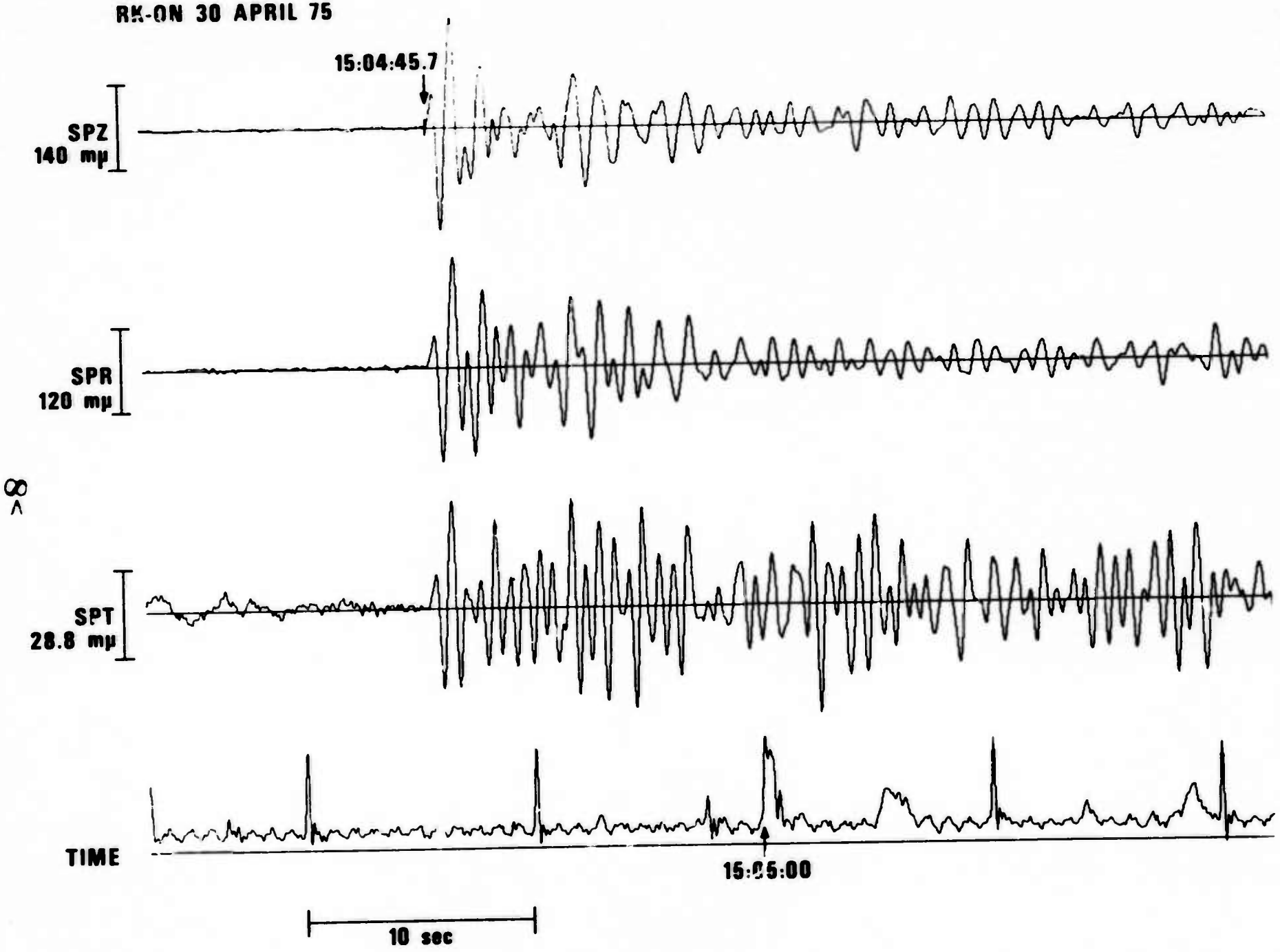
INPUT FOR EVENT 30 APR 75
15:00:00.0 37.000N 116.000W 0KM.

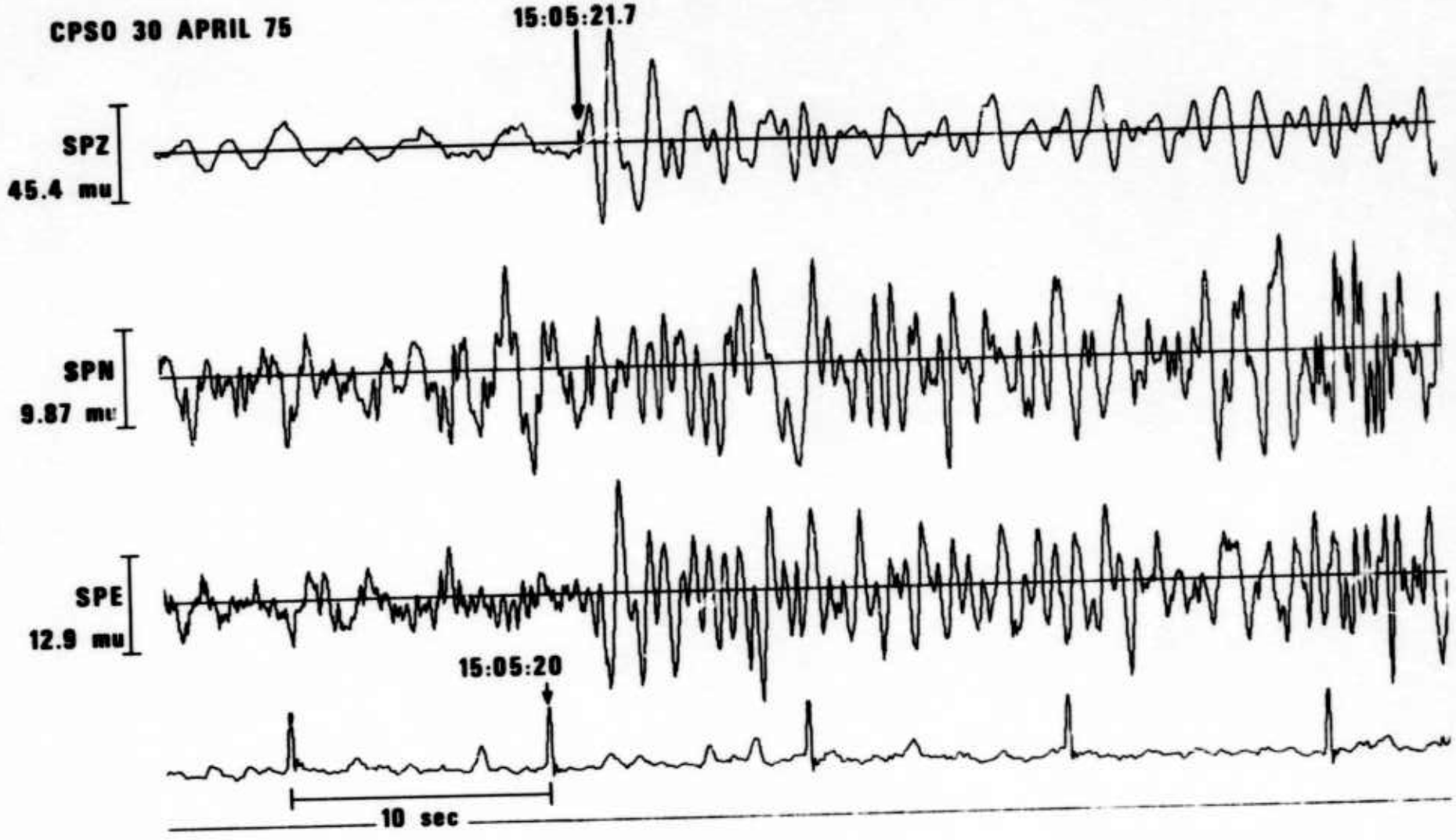
STA.	PHASE	ARRIVAL TIME	INST	PER	A/T	MAGNITUDE MB	MS	DIR	DIST
LAO M	EP	15 02 52.6	AB	0.9	32.	5.30			12.0
LAO	E	15 07 52.0	IAB	0.0	0.				
RK-ON	+IP	15 04 45.7	SPZ	0.8	258.	5.22			21.1
RK-ON	E	15 04 51.0	SPZ	1.1	216.				
RK-ON	E	15 13 27.0	LPR	13.0	27.				
CPO	EP	15 05 21.7	SPZ	0.9	22.	4.48			24.7
CPO	LR	15 15 16.0	LPZ	15.0	58.		4.28		24.7
WH2YK*	EP	15 05 20.1	SPZ	1.3	45.	4.78			26.3
WH2YK	LQ	15 14 52.0	LPT	22.0	13.				
WH2YK	LR	15 16 54.0	LPZ	17.0	31.		4.03		26.3
PN-WV	EP	15 06 02.3	SPZ	0.9	10.	4.30			28.9
PN-WV	LR	15 17 41.0	LPZ	15.0	49.		4.27		28.9
ALPA	LR	15 21 32.0	LAB	16.0	143.		4.80**		33.6
HN-ME	EP	15 07 07.7	SPZ	0.8	34.	4.77			36.6
NAO	EP	15 11 32.4	AB	0.8	14.	4.73			73.2
NAO	LR	15 43 26.0	LAB	14.0	36.		4.54**		73.2

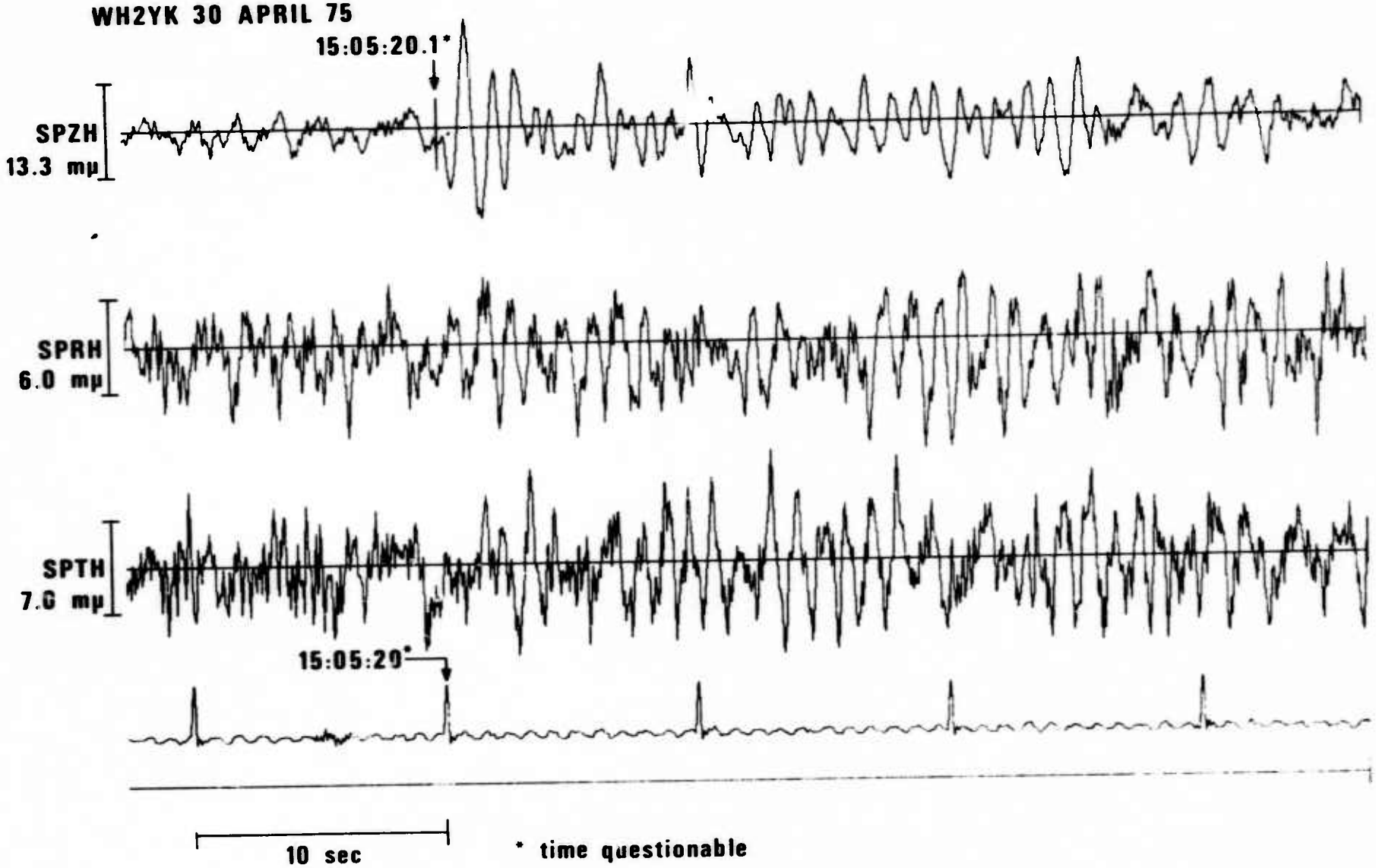
ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
14:59:59.2	37.221N	116.305W	0. CALC	4.70	0.35	5	4.03******		1
15:00:01.0	37.256N	116.256W	0. REST	4.70	0.35	5	4.03******		1

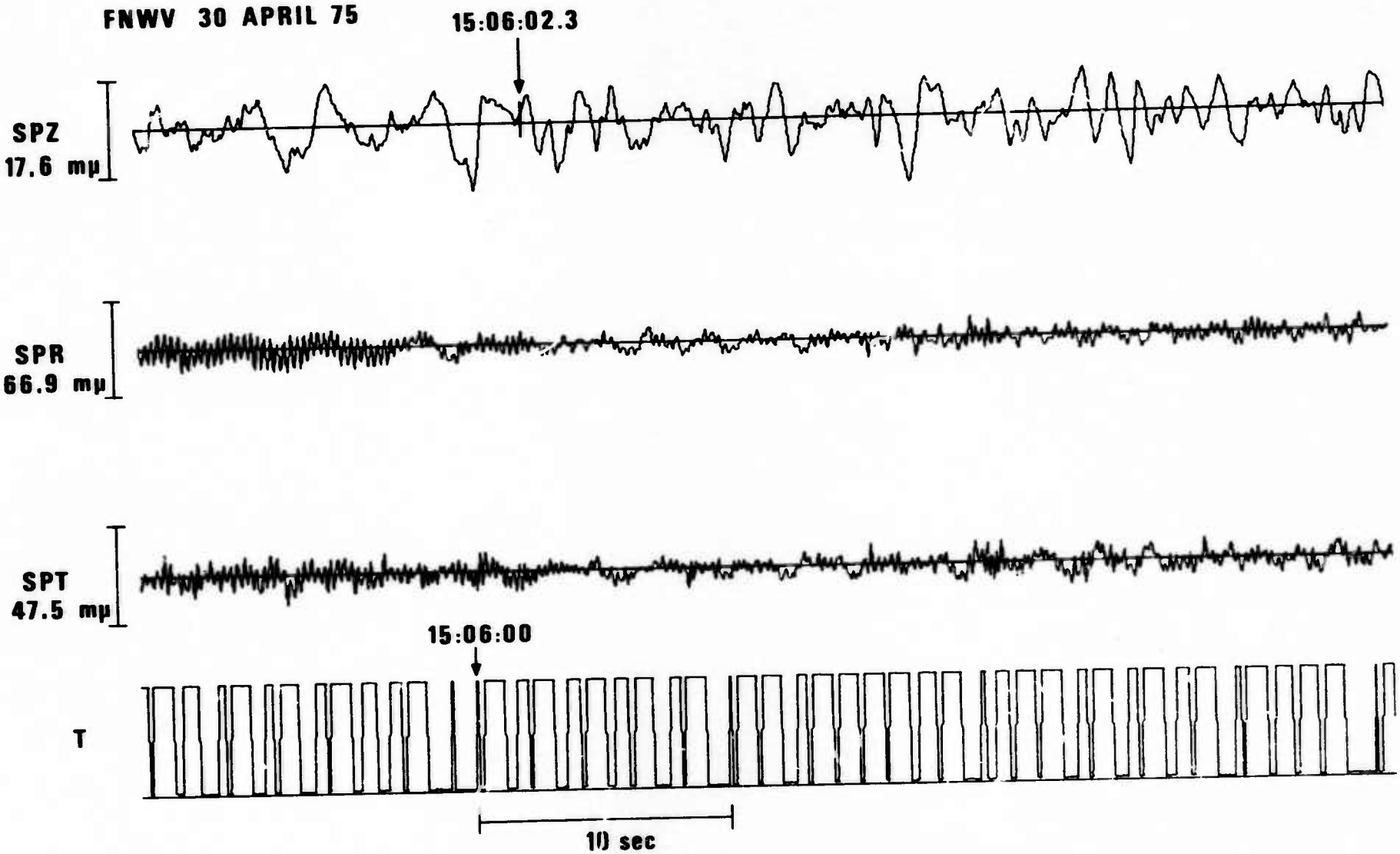
**MAGNITUDE DETERMINATION QUESTIONABLE DUE TO UNRESOLVED SCALING PROBLEMS.

NOTE: Differences between m_b for LASA and NORSAR in Summary and those published by the stations are attributed to differing distance correction applications.

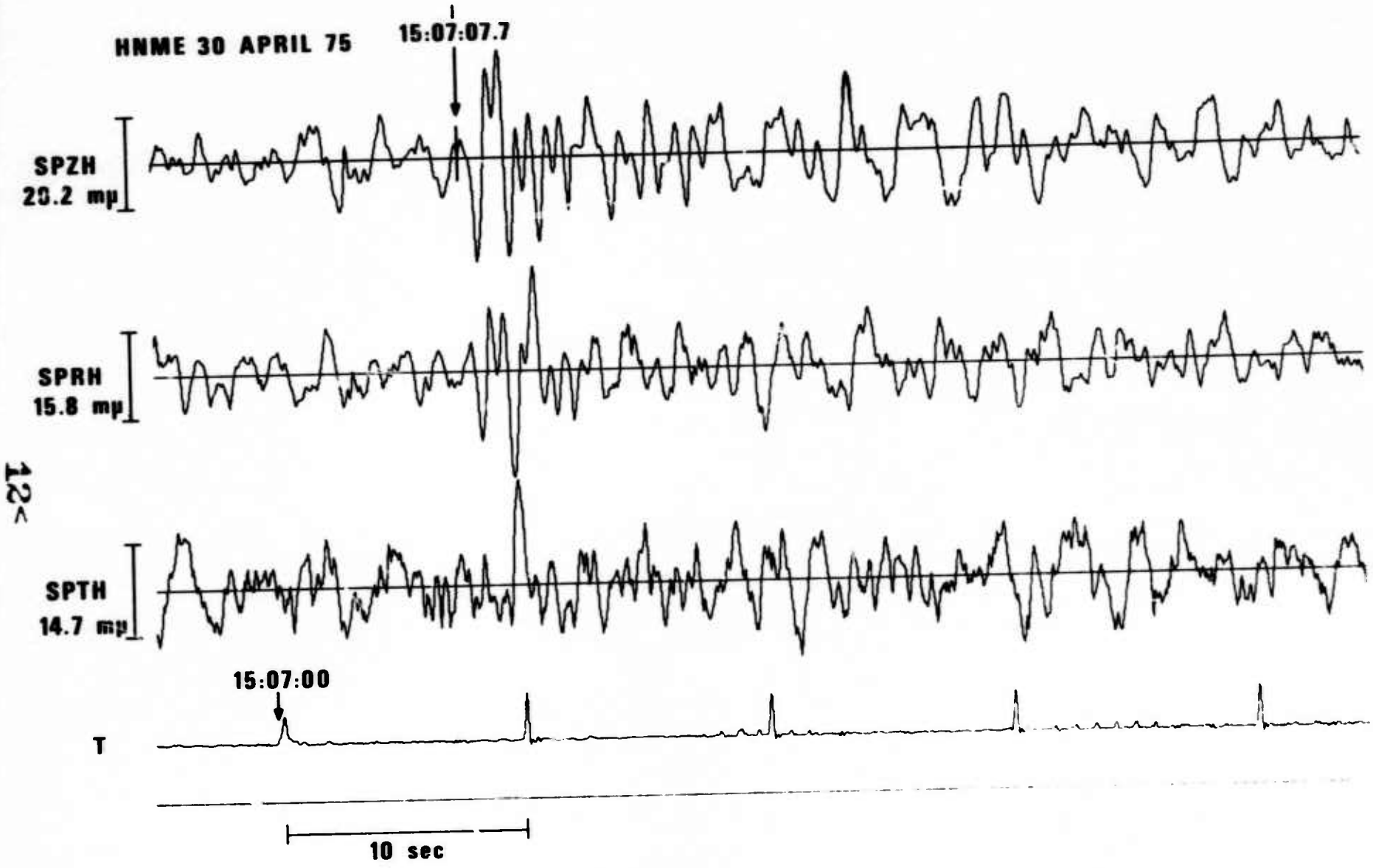

RK-ON 30 APRIL 75
15:04:45.7
SPZ
140 mμ
SPR
120 mμ
SPT
28.8 mμ
TIME
15:05:00
10 sec


CPSO 30 APRIL 75
15:05:21.7
SPZ
45.4 mu
SPN
9.87 mu
SPE
12.9 mu
15:05:20
10 sec


WH2YK 30 APRIL 75
15:05:20.1*
SPZH
13.3 mμ
SPRH
6.0 mμ
SPTH
7.0 mμ
15:05:20*
10 sec
* time questionable

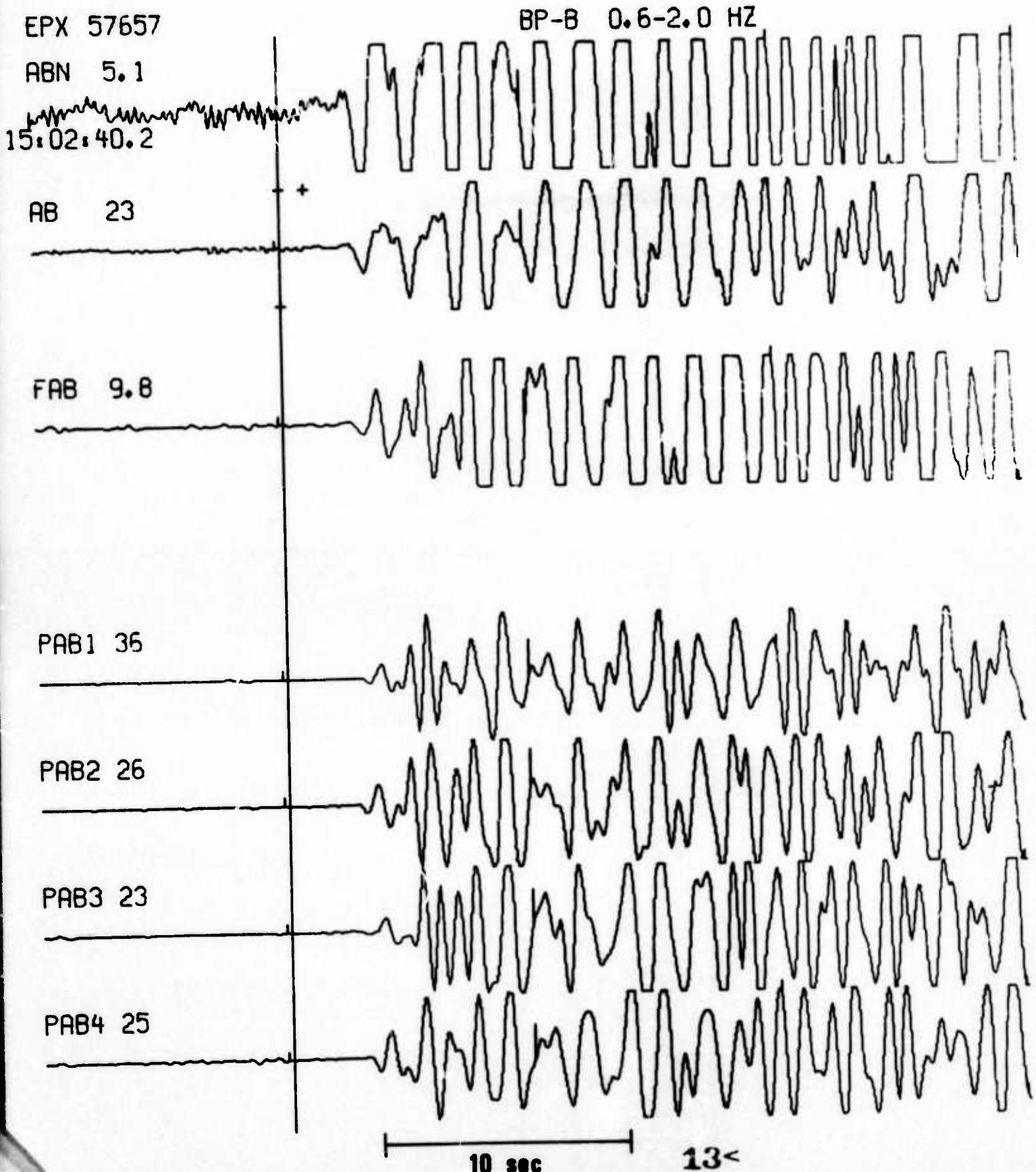

FNWV 30 APRIL 75
15:06:02.3
SPZ
17.6 mμ
SPR
66.9 mμ
SPT
47.5 mμ
15:06:00
T
10 sec

11 A

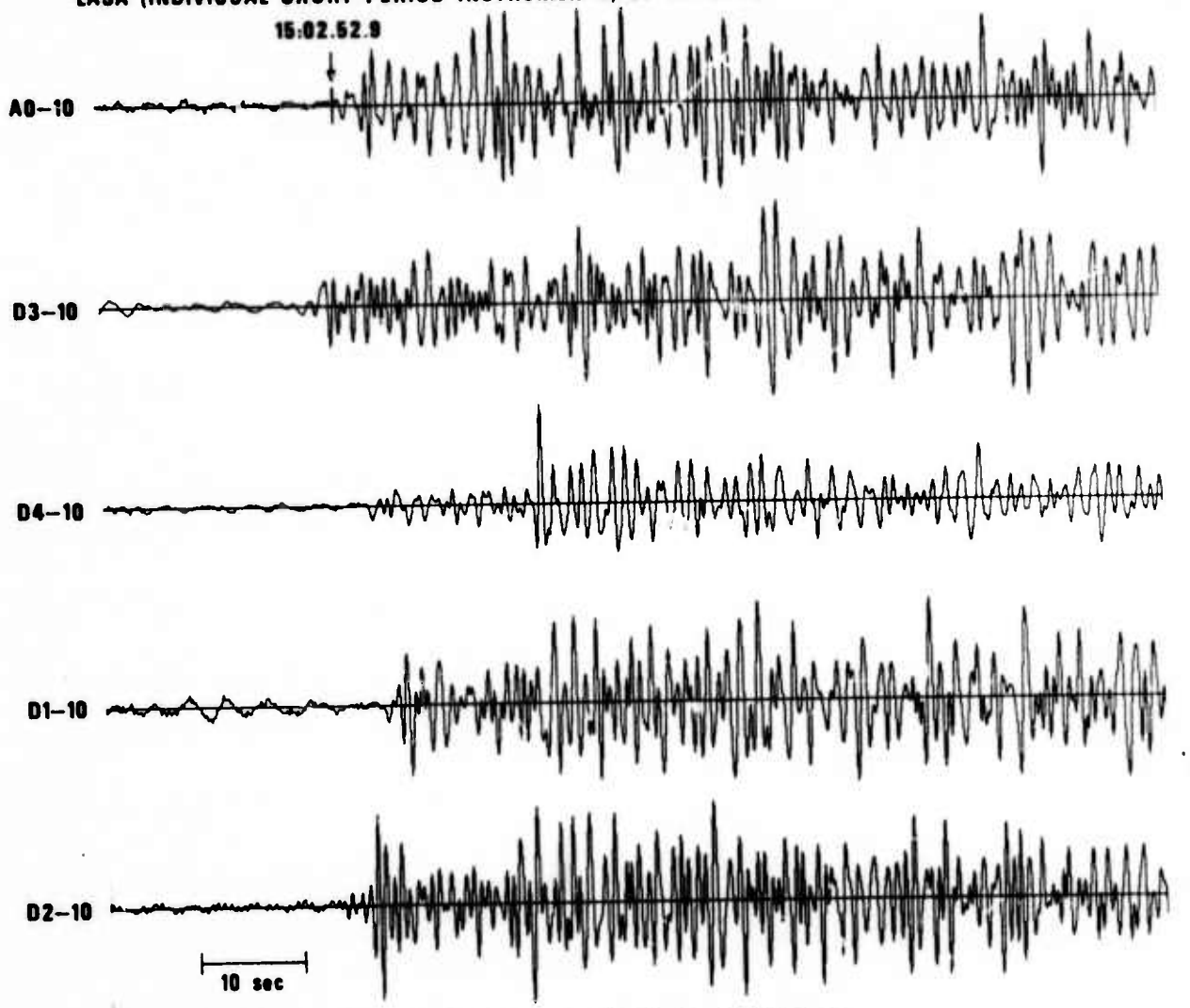

HNME 30 APRIL 75
15:07:07.7
SPZH
20.2 mμ
SPRH
15.8 mμ
SPTH
14.7 mμ
15:07:00
T
10 sec

LASA

1 30 APR 1975
2 14 59 38 36.2N 118.0W OG B 4.6 40 CALIFORNIA-NEVEDA BORDER
3 15 2 50.2 LAO P 11.3 1.0 8.3 13.6 224.5



LASA (INDIVIDUAL SHORT PERIOD INSTRUMENTS) 30 APRIL 75

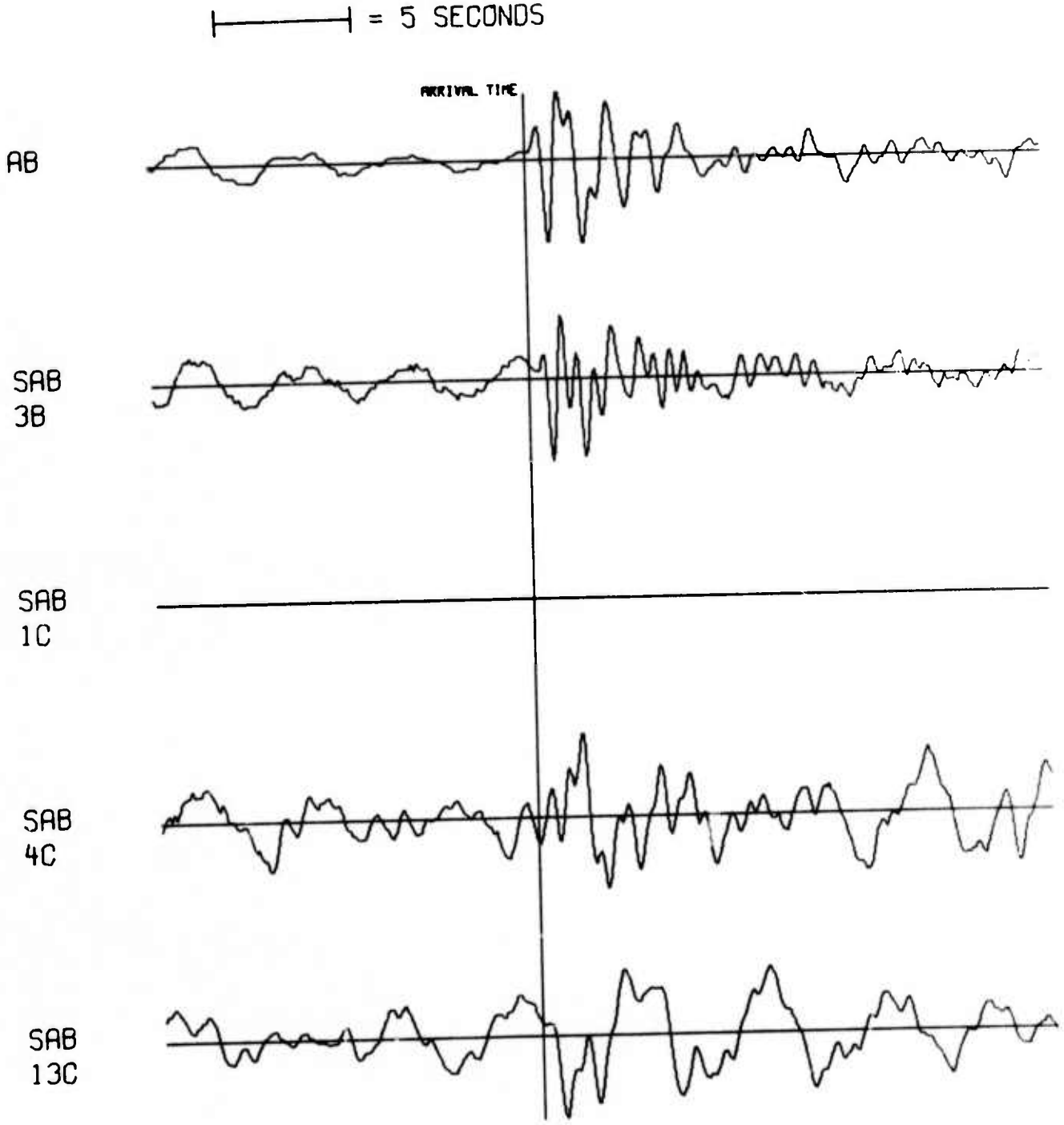


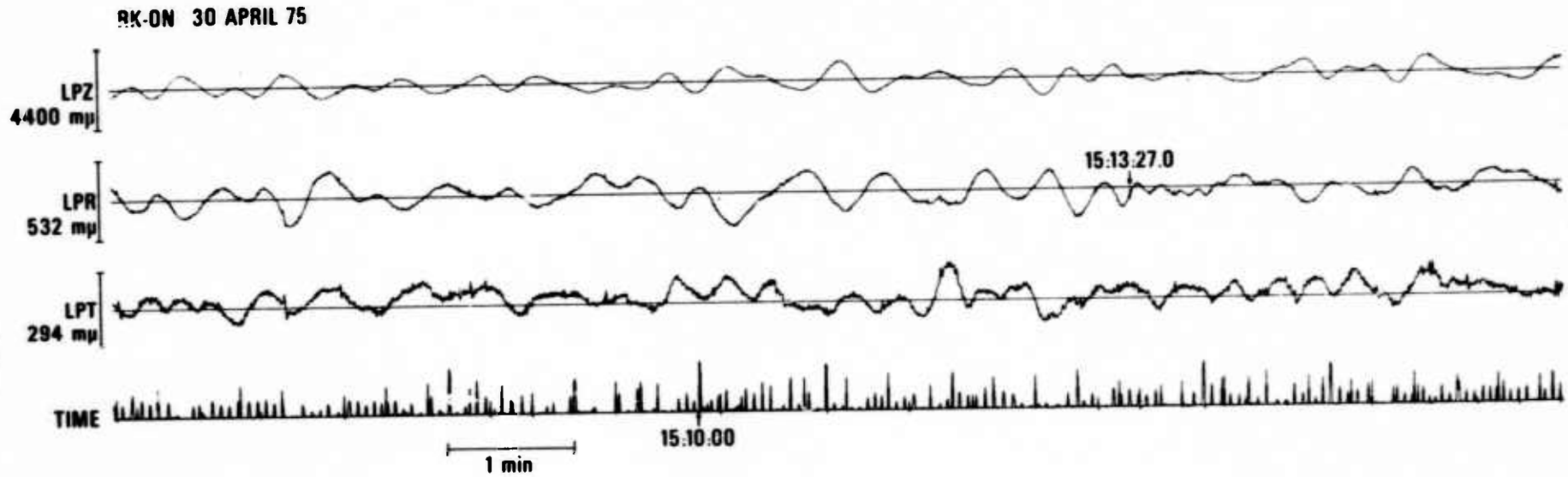
(No amplitude determinations made due to unresolved scaling problems.)

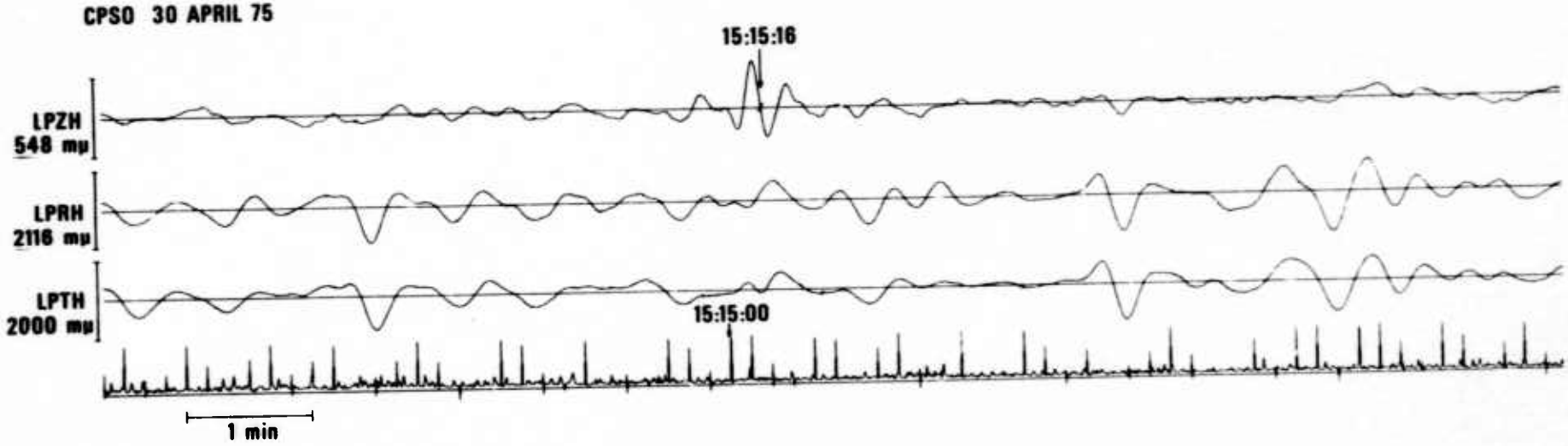
NORSAR EVENT FILE 1975 APR 30

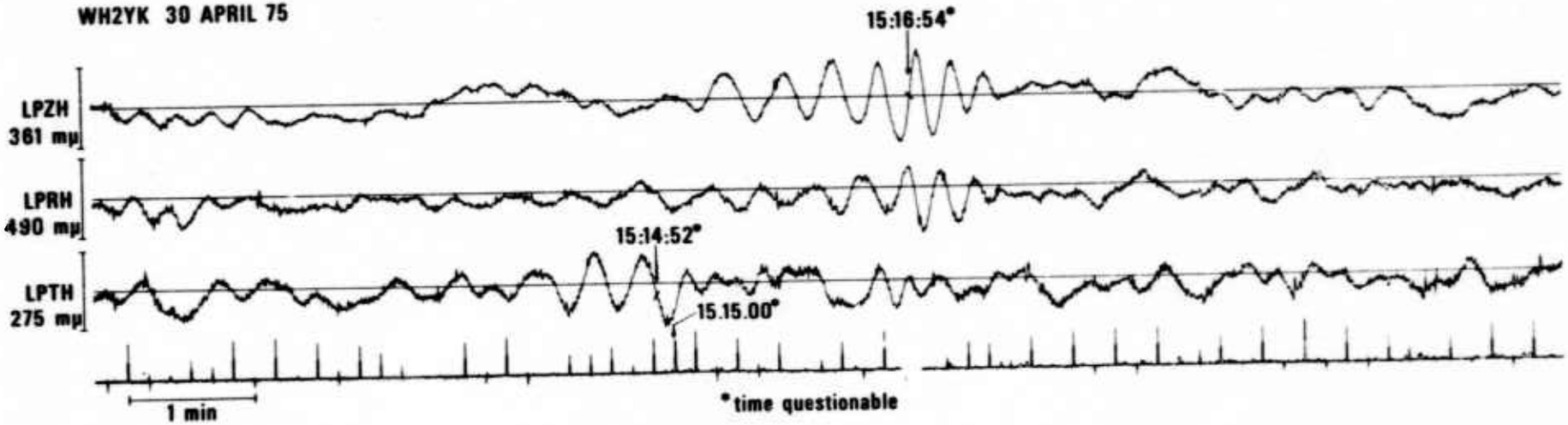
EPX NO. 14650 ARR. 15.11.32.3 38.2N 115.6W 4.7MB 33KM

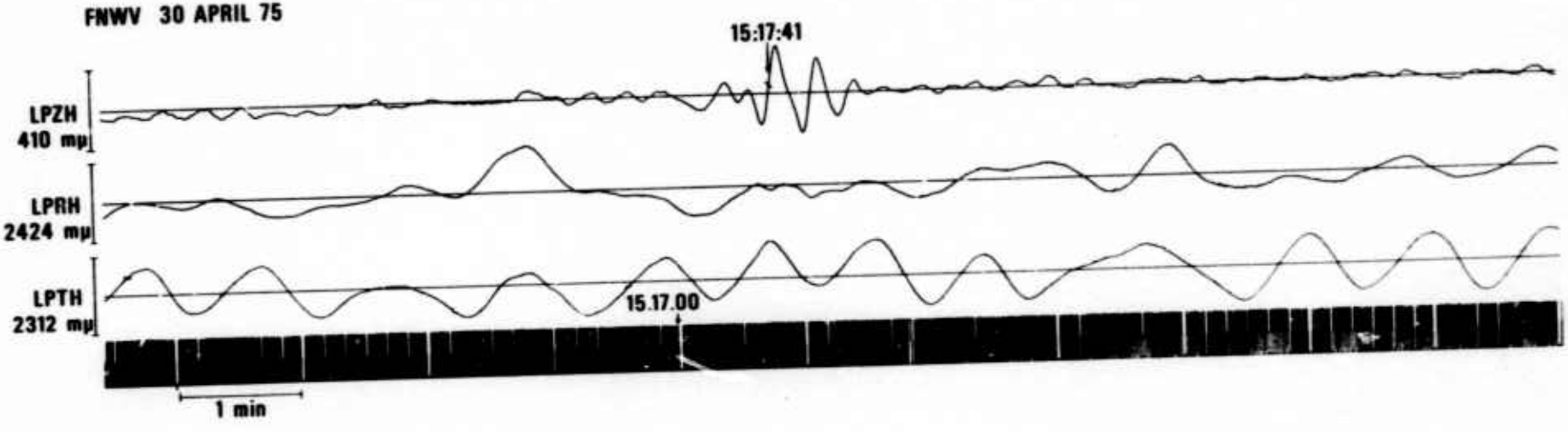
DIST = 72.1 AZI = 318.2 AMP = 10.9 PER = 1.2 UMETH 2

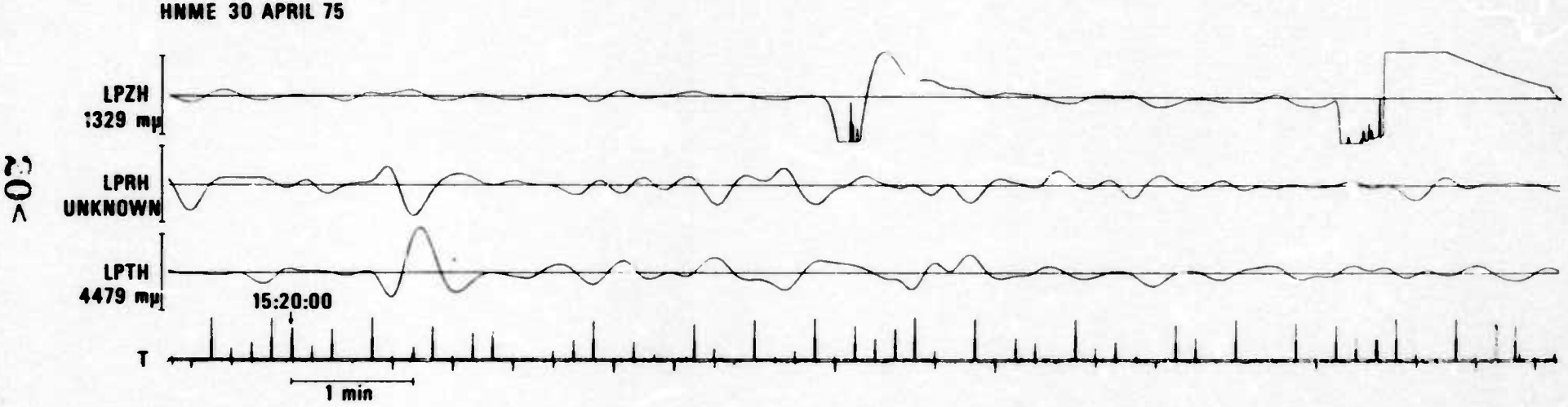



RK-ON 30 APRIL 75
LPZ
4400 mμ
LPR
532 mμ
LPT
294 mμ
15:13:27.0
TIME
15:10:00
1 min


CPSO 30 APRIL 75
15:15:16
LPZH
548 mμ
LPRH
2116 mμ
LPTH
2000 mμ
15:15:00
1 min

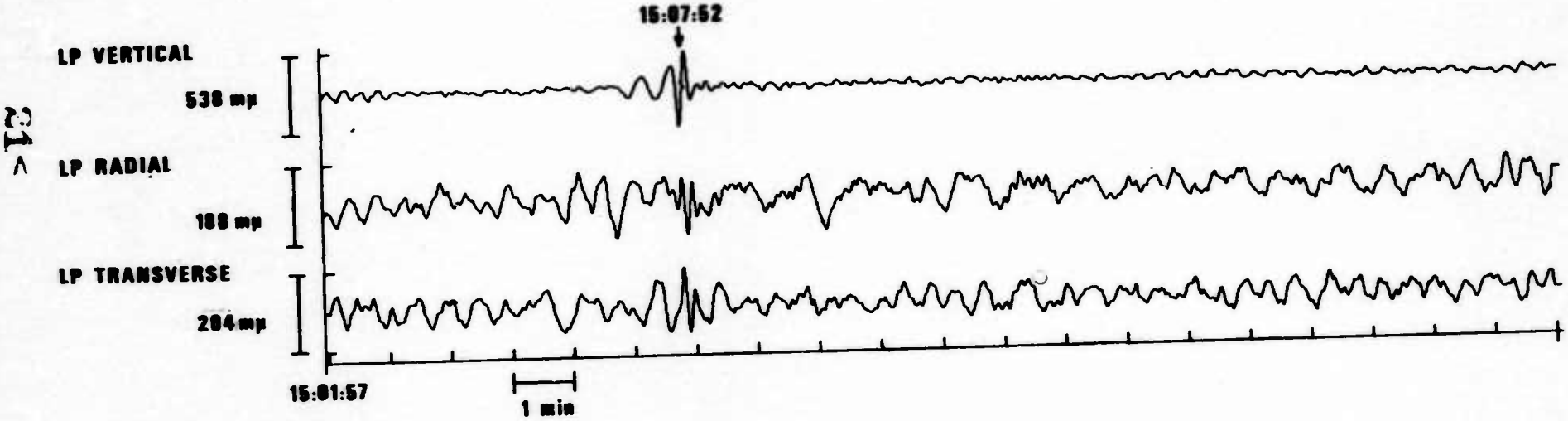

WH2YK 30 APRIL 75
15:16:54*
LPZH
361 mμ
LPRH
490 mμ
15:14:52*
LPTH
275 mμ
15.15.00*
1 min
*time questionable

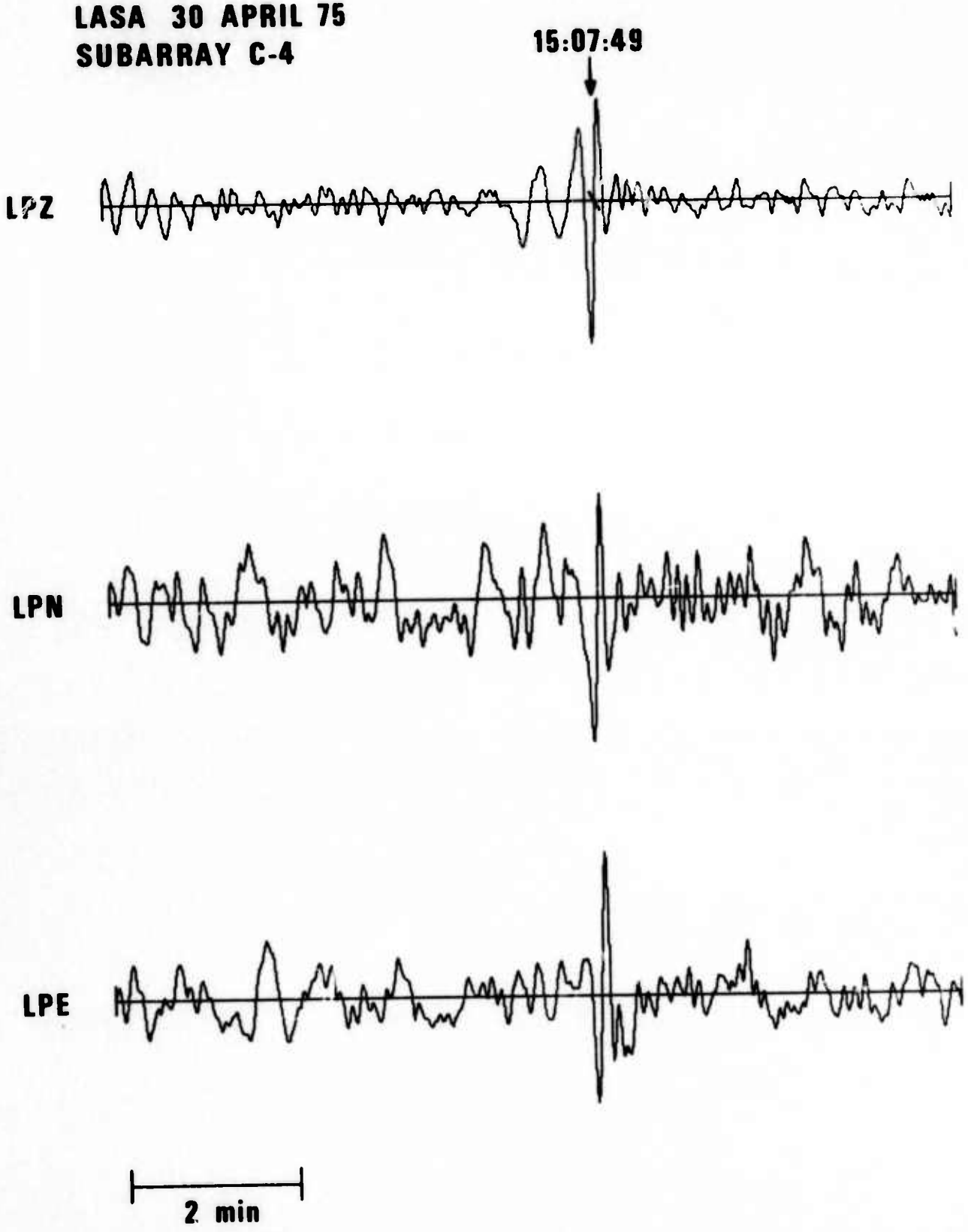

FNWV 30 APRIL 75
15:17:41
LPZH
410 mμ
LPRH
2424 mμ
LPTH
2312 mμ
15.17.00
1 min


HNME 30 APRIL 75
LPZH
1329 mμ
LPRH
UNKNOWN
LPTH
4479 mμ
15:20:00
T
1 min

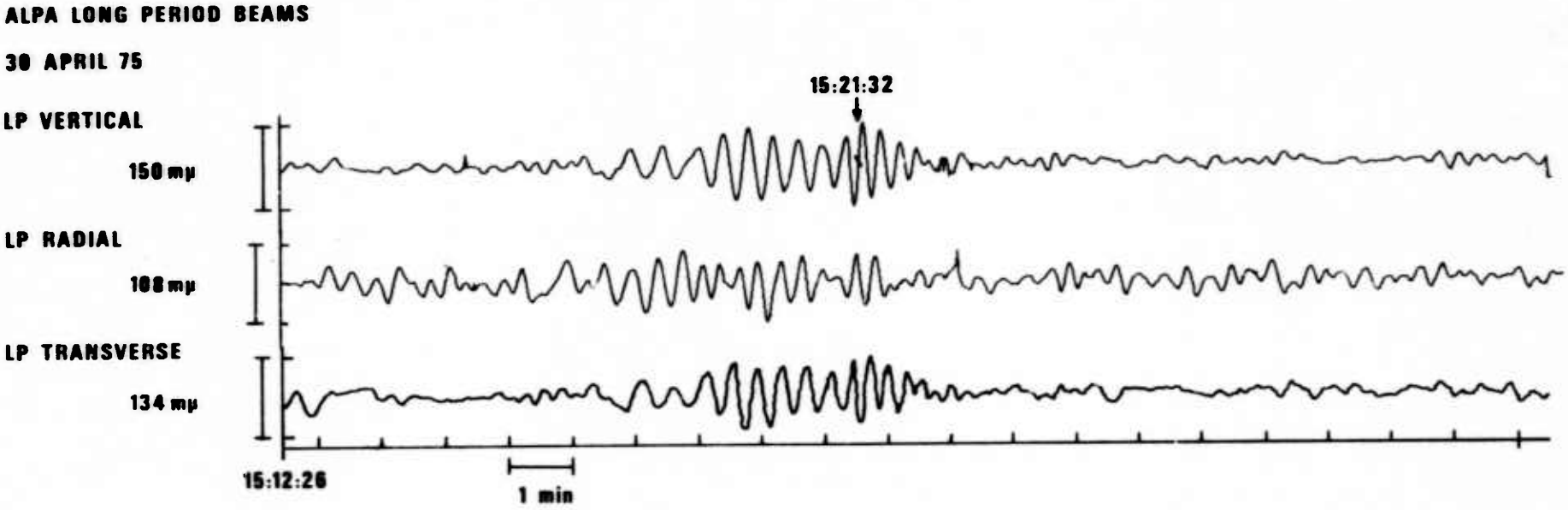
LASA LONG PERIOD BEAMS

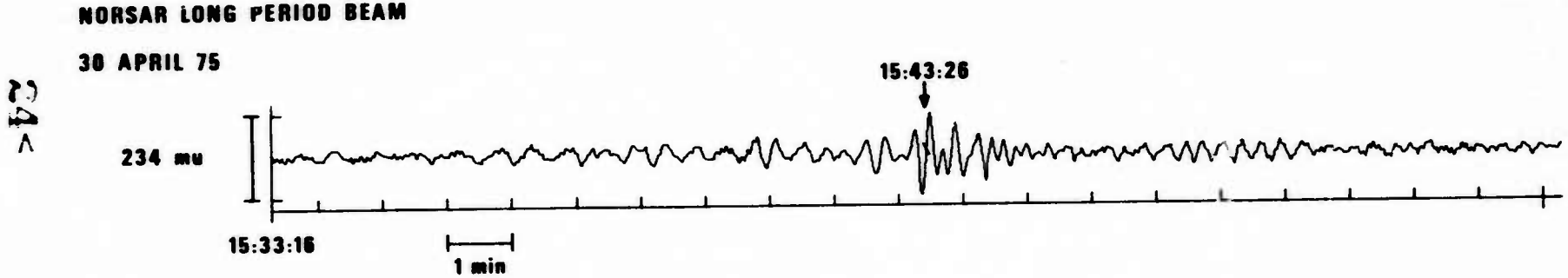
30 APRIL 75





(No amplitude determinations made due to unresolved scaling problems.)


ALPA LONG PERIOD BEAMS
30 APRIL 75
15:21:32
LP VERTICAL
150 mμ
LP RADIAL
188 mμ
LP TRANSVERSE
134 mμ
15:12:26
1 min


NORSAR LONG PERIOD BEAM
30 APRIL 75
15:43:26
234 mu
15:33:16
1 min